

AGENDA REQUEST
BUSINESS OF THE PLANNING & ZONING COMMISSION
CITY OF SUGAR LAND, TEXAS

AGENDA OF <u>05/22/03</u> DEPT OF ORIGIN: <u>DEVELOPMENT SVCS</u> REQ. NO. <u>IV A</u> DATE SUBMITTED: <u>05/15/03</u> ORIGINATOR: <u>DOUGLAS P. SCHOMBURG, AICP, ASSIST. CITY PLANNER</u>
SUBJECT: CONDITIONAL USE PERMIT FOR A TELECOMMUNICATIONS TOWER IN THE GENERAL INDUSTRIAL DISTRICT (M-2)
PROCEEDING: CONSIDERATION AND ACTION
EXHIBITS: VICINITY MAP; ZONING MAP; CUP APPLICATION AND LETTER; STRUCTURAL ANALYSIS REPORT; SITE PLAN; SITE SURVEY; CO-LOCATION INTENT AND AREA TOWER ANALYSIS
APPROVED FOR SUBMITTAL: <div style="text-align: right; margin-top: 10px;"> DOUGLAS P. SCHOMBURG, AICP, ASSIST. CITY PLANNER <i>D.P.S.</i> SABINE A. KUENZEL, AICP, CITY PLANNER <i>S.A.K.</i> </div>

EXECUTIVE SUMMARY:

Mr. Brett A. Ellis of Baran Telecom is requesting a conditional use permit (CUP) to locate a 120' monopole telecommunications tower, SIC No. 4812 (Radiotelephone Communications) and SIC No. 4813 (Telephone Communications), in the General Industrial District (M-2). The subject site being a 1.585 acre Tract of land identified as a tract being within the 100 foot Union Pacific Railroad Right-of-Way (ROW) near the northwest intersection of State Highway 6 and US Highway 90A. The facility is proposed to be located on Union Pacific Railroad company property that the applicant would lease. The location is further identified in the attached vicinity map and site plan.

GENERAL SITE INFORMATION:

The following is a summary of general site information. The attached conceptual site plan has been reviewed by staff for the conditional use permit. In addition, should the CUP be approved, a standard commercial site plan submittal conforming to the Development Code, Subdivision Regulations, Design Standards, and all other applicable regulations must be reviewed and approved by staff.

Comprehensive Plan	The Comprehensive Plan identifies this area as research/industrial.
Adjacent Zoning	North: General Industrial (M-2) South: General Business(B-2) East: General Industrial (M-2) West: General Industrial (M-2)

Adjacent Land Use	North: Vacant and Airport Facilities South: US HWY 90 ROW and vacant property East: Vacant property and SH6 ROW West: Vacant property Site: Union Pacific Railroad ROW with two tracks
Traffic	Vehicle traffic at the site would be minimal with occasional monitoring or maintenance of the telecommunications tower.
Buffering , Landscaping, or Screening	No buffering or landscaping is proposed. The tower height would be 120'. The applicant proposes that the site include a 6' high wooden fence that could screen ground mounted equipment or structures.
Federal Aviation Administration and Airport Contact for Height	The applicant has presented the City of Sugar Land with an FAA "Determination of No Hazard to Air Navigation" report. The City of Sugar Land Airport staff has indicated concerns as to proximity to the Airport and height.

DEVELOPMENT CODE PROVISIONS FOR CONDITIONAL USE PERMITS:

Section 2-22. Standard of Review

In reviewing the application, the Commission and Council will consider the impact the proposed use would have on surrounding premises and the community, including traffic, noise, and property values; any conditions or restrictions that could mitigate any adverse impact; and other matters that are relevant to a determination of whether the use would be a compatible and appropriate use of the premises.

Section 2-23. Conditions

The Commission may recommend, and the Council may impose, reasonable conditions and restrictions in the granting of a permit to mitigate any adverse impacts of the proposed use. The conditions must be specific in the ordinance approving the permit.

ANALYSIS:

Development Code and SIC Code Classifications-

Sections 2-231-241 of the Development Code contain the regulations for telecommunication towers and antennas. The intent of the regulations is to maximize the use of new and existing towers, to minimize the number of unnecessary towers, and to minimize potential adverse impacts of towers and antennas. The SIC manual in category SIC No. 4812 (Radiotelephone Communications) and SIC No. 4813 (Telephone Communications) classifies the categories that telecommunications towers and facilities fall into.

Applicant Inventory and Tower Owner Contacts-

As a requirement of the Development Code, all applicants must submit an inventory of the applicant's existing telecommunication towers within the City and must contact owners of all existing towers of a height roughly equal to or greater than the proposed tower with the service area grid. The applicant has provided an inventory and Structural Analysis Report by an independent firm on towers within a 1/2 mile area around the proposed tower site. None of these sites had the capacity to accept another carrier according to the letter and reports submitted by the applicant. (See Attached letter and report)

Tower Site Plan Information-

The proposed telecommunications tower is a 120' monopole that would be located within the 1.58 acre lease site within the 100' wide Union Pacific Railroad ROW. The Development Code also requires co-location ability on any new towers, which is the ability to locate additional antennas on the tower. Information provided by the applicant indicates that there will be co-location ability on the proposed tower, including the possibility to accommodate Wireless Internet Carriers. (See Attached Site Plan and letters) The proposed tower site is located near the area of US Highway 90A and State Highway 6 that is scheduled to be re-configured into a bi-level interchange in the near future. The Planning Division has consulted with City Engineering staff as to any known impacts and has examined preliminary schematics of the road configuration. The site does not appear to impact the proposed interchange, and the applicant has indicated that they consulted the Texas Department of Transportation prior to making application to the City of Sugar Land.

General Requirements and Visual Impact-

The following information from Sections 2-235 and 2-236 of the Development Code are provided to give an overview of some of the regulations that apply to new proposed telecommunication towers:

Sec. 2-235. General Requirements and Regulations.

- (a) No Advertising is permitted on an Antenna or Tower.
- (b) No Signs or illumination are placed on an antenna or Tower unless required by the FCC, FAA or other state or federal agency of competent jurisdiction. The Director may review the available lighting alternatives and approve the design that would cause the least disturbance to the surrounding uses and views.
- (c) A new cell may not be established if there is a technically suitable space available on an existing Tower within the search area that the new cell is to serve. For the purpose of this article, the search area is defined as the grid for the placement of the Antenna.
- (d) A Tower must not be located in the required Front Yard in a Residential District.

TOWER HEIGHT	<50 feet	50-100 ft.	101-150 ft.	>>150 feet
<50 ft.	300'	500'	750'	1000'
50-100 ft.	500'	750'	1000'	1500'
101-150 ft.	750'	1000'	1500'	2000'
>>150 ft.	1000'	1500'	2000'	2500'

Sec. 2-236. Visual Impacts.

- (a) Towers must either maintain a galvanized steel finish or, subject to any applicable standards of the FAA or other applicable federal or state agency, be painted a neutral color, so as to reduce visual obtrusiveness.
- (b) At a Tower site the design of the Building and related Structures must use materials, colors, textures, screening, and landscaping that will blend the Tower and facilities to the natural setting and built environment.

- (c) If an Antenna is installed on a Structure other than a Tower, the Antenna and supporting electrical and mechanical equipment must be of a neutral color that is identical to, or closely compatible with, the color of the supporting Structure so as to make the Antenna and related equipment as visually unobtrusive as possible.
- (d) Towers clustered at the same site must be of similar Height and design.
- (e) Towers must be the minimum Height necessary to provide parity with existing similar Tower supported Antenna, and must be freestanding where the negative visual effect is less than would be created by use of a guyed Tower.

Regulations relating to Airport Zoning-

This tower site falls under the Development Code Airport Zoning Regulations in Chapter 9, Article III. Compatible Land Use Zoning Regulations, and is located within the AZ-01 (Yellow) Zone on the Sugar Land Municipal Airport Zoning Map. The AZ-01 Zone (Airport Zoning District 1), is one of four zones within the Airport Zoning Districts Land Use Matrix and Map. The SIC No. 4812 (Radiotelephone Communications) and SIC No. 4813 (Telephone Communications) are allowable uses within the AZ-01 Zoning District, which represents an additional level of regulation in addition to any CUP related requirements under M-2 District Zoning.

In addition to the Airport Land Use regulations, the Development Code specifies that sites must be in conformance with the height restrictions set out in the Airport Hazard Zoning Map. The Planning Division defers to the City of Sugar Land Aviation Department for matters of Airport Hazards, and Planning has been in contact with the Aviation Director regarding this matter. As indicated within the General Information section of this report, the applicant has received information from the Federal Aviation Administration (FAA) entitled "Determination of No Hazard to Air Navigation" which is required for cell towers. The Aviation Department has received the information from the applicant and from the Federal Aviation Administration, and has concerns over the height of the tower in relationship to the proximity to airport facilities.

This case was presented to the Planning and Zoning Commission on April 24, 2003 for a public hearing and discussion/direction. At the meeting Gary Hawkins, Asst. Aviation Director (Operations) made a presentation indicating the main concerns that the Airport had relating to the proposed CUP for the Cell Tower with regard to the location and height as to flight patterns, landings, and operations. Reagan Clark, Chair of the Aviation Policy Advisory Board (Council Advisory Board), also spoke and voiced concerns about the proposed tower. The applicant, Bret Ellis (Baran Telecom) made a brief presentation. No one else spoke at the public hearing. The following questions were raised by the Commission at the meeting:

- Discussion about the tower height and airport concerns
- Electronics and frequencies as related to the location of the tower in close proximity to the Airport Facilities and flight paths
- The US 90A / SH 6 elevated interchange scheduled for construction and the impact if any on both the construction of the interchange and the effectiveness of the tower next to the interchange, along with tower navigation lights presenting any hazard to motorists
- Concerns over flight safety, flight paths, and the possibility that the tower could be damaged in any train derailment incident and create a hazard by falling

The Commission direction to the applicant and staff was as follows:

- Examine any opportunities for co-location at other sites, including the existing towers at the Fort Bend ISD Frankie Field facility and the M-1 District where softball fields are located next to US HWY 90A. Staff agreed to look into any options that might be available and share that info. with the applicant. The applicant was asked to examine other alternatives and present information on the viability of any options.

-The applicant submitted a set of graphics showing the grid area of the proposed tower and has also indicated to the Planning Staff that sites such as Frankie Field facility and the City of Sugar Land Imperial Park would not be viable due to the service area needed. (See attached drawings per Baran Telecom)

- Explore the possibility of lowering the tower from 120' to 100', based on applicant's comments that lowering the height might be a possibility.

-Planning Staff has not received any new proposal with regard to tower height. The applicant proposes a 120' tower currently.

- Examine whether the proposed cell tower might create a hazard to motorists on the proposed elevated portion of the SH 6 / US 90A Interchange by the placement of navigation beacons on the tower.

-Planning and City Engineering Staff researched this question as to TXDOT standards and also contacted the consulting engineering firm for TXDOT that is working with the proposed interchange design plans. There were no standards found that would apply.

- Examine the reference to windspeed in the structural report (90mph) with the Development Services Dept. (Permits and Inspections) to determine if that meets current criteria, and also examine the safety issue of the tower with regard to any barriers or additional protection that might be recommended due to location within railroad ROW.

-Planning Staff discussed the windspeed issue with the City of Sugar Land Building Official, Clark Peschel, who indicated that the structure would need to withstand sustained winds of 90 miles per hour, with three second gusts of 110 miles per hour, per the Building Code. This would be required by the City before the structure could be built. As to the placement of additional barriers to protect the tower within the railroad right-of-way, it is unlikely that an effective barrier could be placed around the tower that would prevent damage in the event of a derailment. If the Commission determines the derailment/tower protection issue to be a major concern, then the CUP should not be approved.

- The Applicant was asked to provide clarification on whether ground vibration relating to the railroad tracks might have any effect on the tower stability.

-Staff has received no new information from the applicant on this question.

FINDINGS AND RECOMMENDED ACTION:

The Planning Division finds the following with regard to the requested Conditional Use Permit:

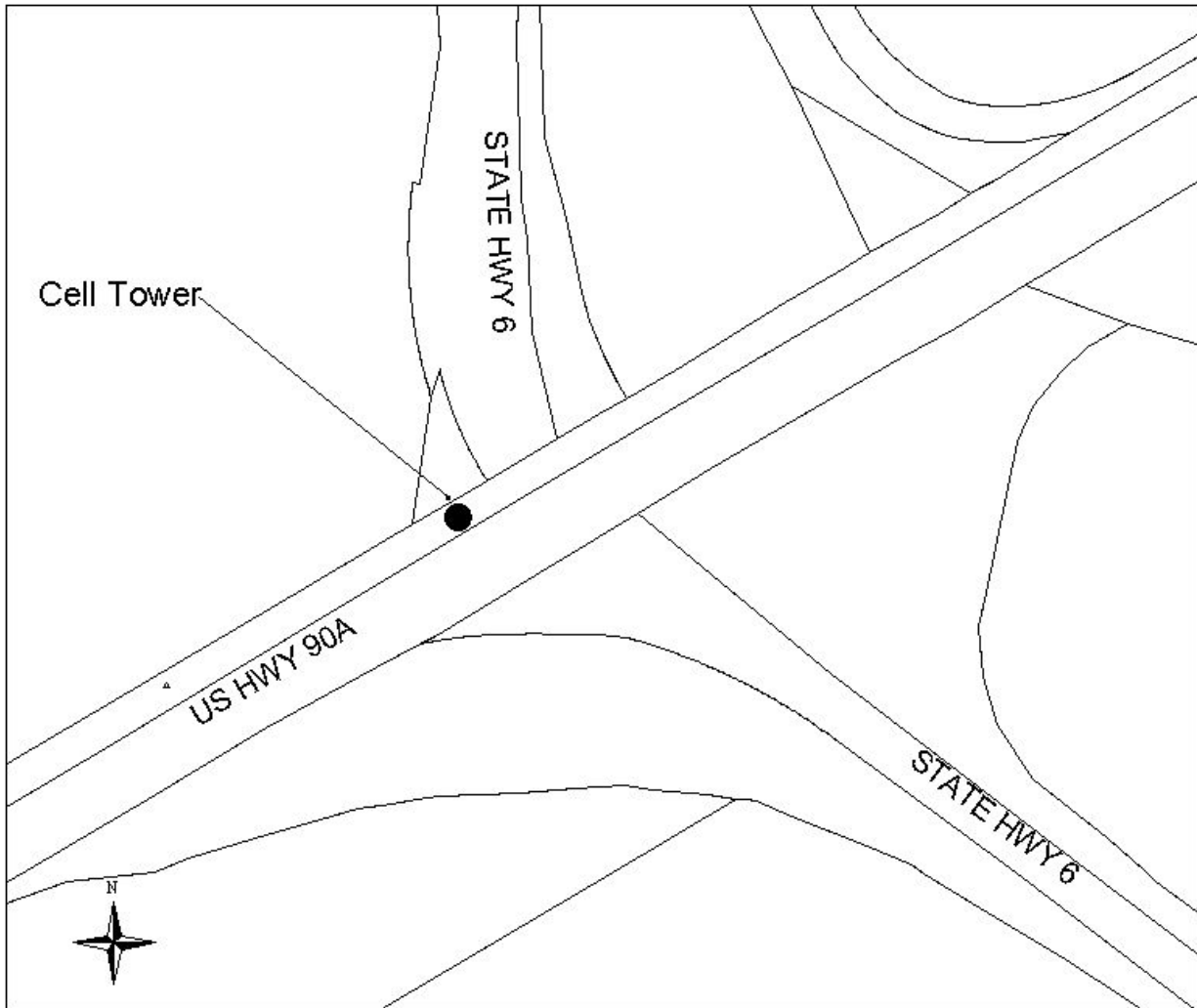
- **The City of Sugar Land Aviation Department has serious concerns related to the proximity of the proposed tower with the City of Sugar Land Regional Airport and the tower height. Members of the City of Sugar Land Aviation Policy Advisory Board have also concurred with these concerns.**
- **It is unlikely that conditions could be placed on this CUP request that would adequately mitigate the height and proximity issues.**

The Planning Division recommends denial of the requested Conditional Use Permit for a telecommunications tower at the proposed location based on the health and safety concerns cited by the Aviation Department.

**cc: Mr. Bret Ellis, Baran Telecom
Mr. Phil Savko, Aviation Director, City of Sugar Land**

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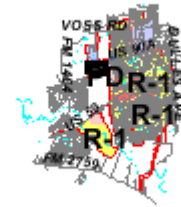
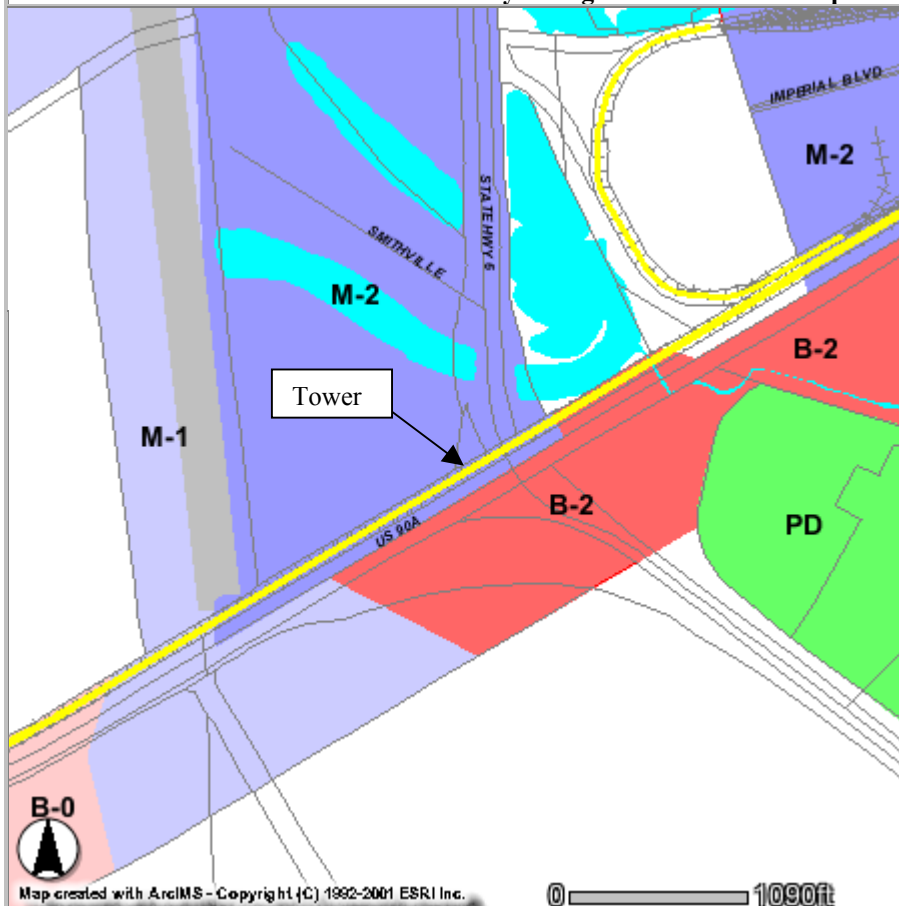
Vicinity Map:



Notice of CUP Cell Tower

Located in the Northwest
corner of SH 6 and US 90 A

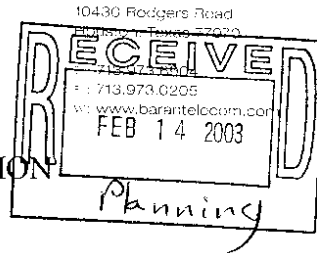
City of Sugar Land General Map



- Selected Features
- STREETS
- RAILROADS
- PARCELS
- CITY LIMITS
- PUBLIC FACILITIES
- WATERWAYS
- ZONING DISTRICTS**
- B-0 BUSINESS OFFICE
- B-1 NEIGHBORHOOD BUSINESS
- B-2 GENERAL BUSINESS
- HR-1 HILL AREA RESIDENTIAL
- M-1 RESTRICTED INDUSTRIAL
- M-2 GENERAL INDUSTRIAL
- MUC MIXED USE CONSERVATION DISTRICT
- PD PLANNED DEVELOPMENT
- R-1 STANDARD SINGLE-FAMILY RESIDENTIAL
- R-1E RESIDENTIAL ESTATE
- R-1R RESTRICTED SINGLE-FAMILY RESIDENTIAL
- R-1Z ZERO LOT LINE SINGLE-FAMILY RESIDENTIAL
- R-3 TOWNHOUSE RESIDENTIAL
- R-4 MULTI-FAMILY RESIDENTIAL

BARAN telecom

A SUBSIDIARY OF THE BARAN GROUP



AAT COMMUNICATIONS CORPORATION
DESCRIPTION OF PROPOSED PROJECT
&
REQUEST FOR CONDITIONAL USE PERMIT

The proposed communication site is located in a Union Pacific Right-of-Way at the northwest corner of the intersection of Highway 90 and Highway 6. AAT Communications Corporation and Union Pacific have entered into a lease agreement for the placement of a communications facility at this site.

AAT Communications proposes to construct and maintain an unmanned communications facility at this location. The facilities anchor tenant will be T-Mobile, but the site will be constructed for the future co-location of two additional carriers. A wood privacy fence will screen all ground equipment. Once constructed, the only visits to the site will consist of scheduled maintenance and occasional emergency maintenance.

NEED

Currently, T-Mobile is experiencing severe capacity issues in this area. The demand for all wireless services in this general area is tied to development. The higher concentration of residents who shop and commute through this district is taxing current systems to their limits. The concentration of wireless users will only multiply with further commercial development and with the increased capacity currently planned for Highway 6 and Highway 90. To keep up with demand and allow unfettered wireless communication, emergency and otherwise, many carriers will follow T-Mobile and look to increase their capacity in this area.

SITE SUITABILITY

AAT Communications has carefully selected this site for both coverage potential and appropriateness. The site will be located in a General Industrial Zone (M-2). To the north of the site, also in General Industrial Zone (M-2), is land owned and farmed by Texas Department of Corrections. To the south of the site is Highway 90, followed by undeveloped land zoned General Business (B-2). To the west of the site is additional land owned by the Texas Department of Corrections, also General Industrial (M-2). To the southeast of the site is another General Business (B-2) zone, currently where Wal-Mart operates. To the east of the site is Highway 6, followed by undeveloped property not within the city limits. Billboards ranging from sixty to seventy-five feet in height surround the site to the north, south, east and west. Furthermore, T-Mobile has reviewed all structures within its search radius and nothing currently provides adequate height.

REQUEST

AAT Communications formally requests to be granted a Conditional Use Permit to build an unmanned communication facility in the Union Pacific Railroad Right-of-Way at the corner of Highway 90 and Highway 6.

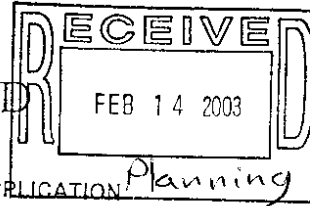


CITY OF SUGAR LAND

PLANNING DEPARTMENT

CONDITIONAL USE PERMIT OR REZONING APPLICATION

Please type or print the following information



Applicant

Contact Baran/O2 wireless Brett A. Ellis
 Address 10430 Rodgers Road, Houston, Tx 77070
 Phone 832 293 9077 Fax 713 973 0205

Owner

Contact Union Pacific Rail Road Dave Burden
 Address UP PF003 1416 Dodge Street, Omaha, NE 68124
 Phone 402 280 6575 Fax NA

Property Legal Description 1.585 acre tract of land... See Attached X

Lot NA Block NA Subdivision NA

Current Zoning District M-2 Proposed Zoning District, if applicable M-2

If this is a CUP application: ☒ new building ☐ existing building

Proposed Use (CUP only) To build a co-locatable communications site in a General Industrial (M-2) zone. Site to provide capacity and emergency coverage for Highway 90 and Highway 6.

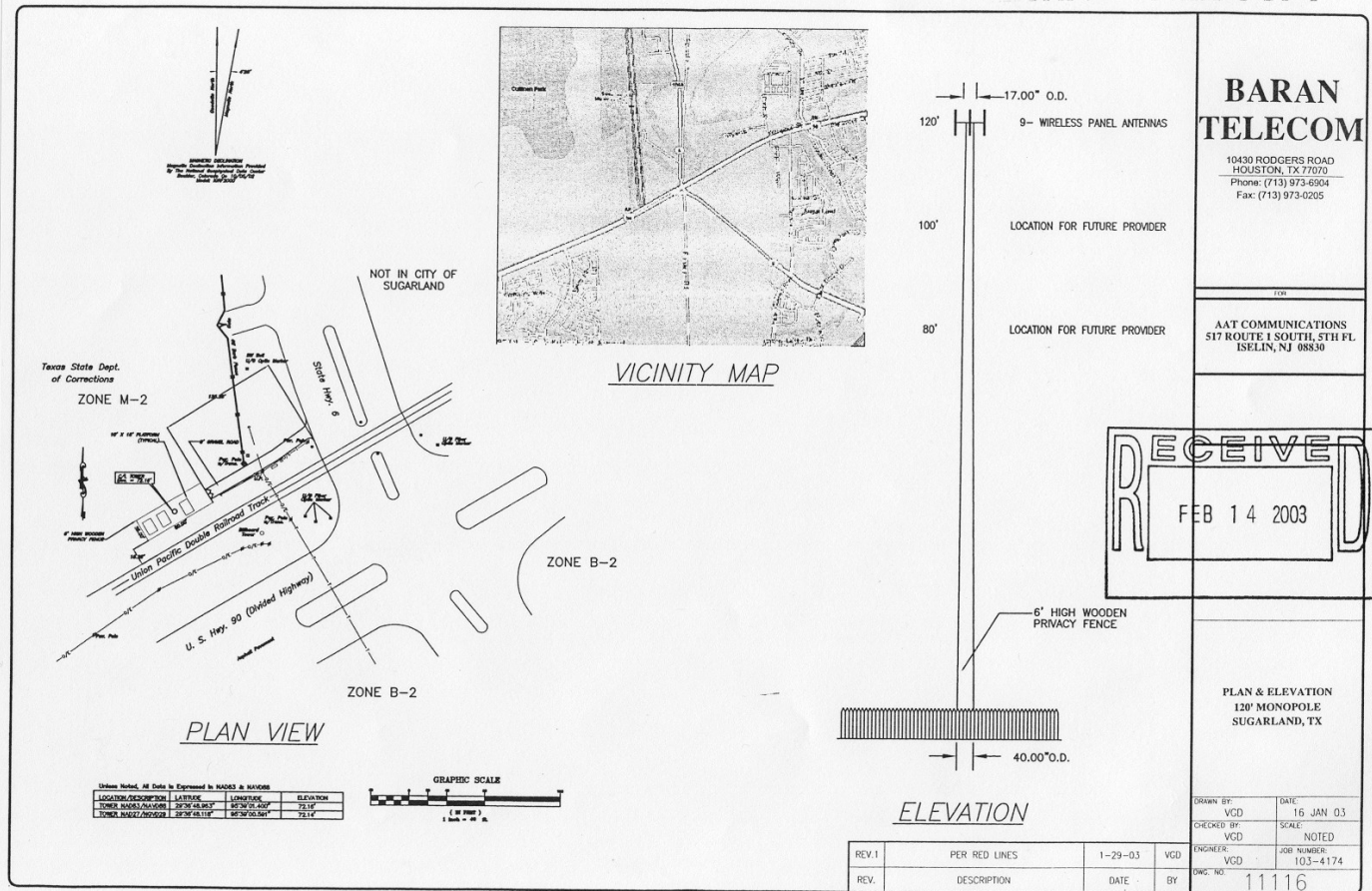
This is to certify that the information on this form is COMPLETE, TRUE, and CORRECT and the undersigned is authorized to make this application.

X [Signature] 2/7/03
 Signature of Applicant Date

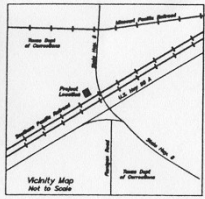
Submittal Requirements:

- ☒ Three (3) copies of the completed application
- ☒ Check for \$400 (non-refundable)
- ☒ Metes and bounds of the site and county slide number of plat, if recorded
- ☒ Two (2) 24" x 36" blue-line copies and two (2) 11" x 17" copies of the CUP layout plan or the property to be rezoned, including a vicinity map and north arrow on each copy
- ☒ Two (2) copies of a letter stating the applicant's request and addressing issues relating to a CUP including traffic circulation, parking, plan of operation, and other pertinent information
- ☒ Names and mailing addresses of all property owners and tenants within 200 feet of site, including owner and applicant

Site Plan:

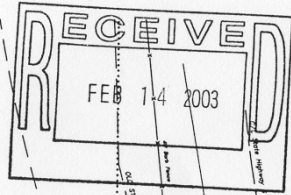


Survey of Property:



NOTE: Compound area too flat for contours and hence will detail for SPOT ELEVATIONS

SOUTHERN PACIFIC RAILROAD
1.585 ACRES
MIL. 36, PG. 201, R.F. 8.C.T.



DRAWING NOT TO SCALE

- NOTES CONCERNING SURVEY:
1. The survey was conducted with a total station and a differential GPS receiver. The survey was conducted on the 14th day of February, 2003.
 2. The survey was conducted in accordance with the Texas Surveying and Mapping Act, Chapter 81, Texas Occupations Code.
 3. The survey was conducted in accordance with the Texas Surveying and Mapping Act, Chapter 81, Texas Occupations Code.
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 9. The survey was conducted in accordance with the Texas Surveying and Mapping Act, Chapter 81, Texas Occupations Code.
 10. The survey was conducted in accordance with the Texas Surveying and Mapping Act, Chapter 81, Texas Occupations Code.

CATCH/DESCRIPTION	LATITUDE	LONGITUDE	ELEVATION
WELL HEAD/ANVILS	29° 54' 45.96"	95° 10' 01.400"	72.16
WELL HEAD/ANVILS	29° 54' 45.96"	95° 10' 01.400"	72.16

LEGEND	SYMBOL
1. LIGHT POLE (SUN GAZE)	○
2. LIGHT POLE (SUN GAZE)	○
3. POWER POLE	○
4. POWER POLE	○
5. POWER POLE	○
6. POWER POLE	○
7. POWER POLE	○
8. POWER POLE	○
9. POWER POLE	○
10. POWER POLE	○

PREPARED BY:
HAS SURVEYING, INC.
Surveying and Telecommunication Company
SERVING THE CENTRAL U.S.
201 N. ROCKFORD, EL RENO, OK 73036
PH: (405) 282-0249 - FAX: (405) 282-8107

SITE SURVEY OF A PROPOSED LEASE SITE LYING IN A PART OF 1.585 ACRE TRACT IN THE SOUTHERN PACIFIC RAILROAD RIGHT-OF-WAY CITY OF SUGAR LAND, FORT BEND COUNTY, TEXAS

PROPERTY DESCRIPTION PER PREVIOUSLY RECORDED LEGAL

PARENT TRACT
A 1.585 acre tract of land lying in and being part of a 14.75 acre strip of land conveyed to the Galveston, Harrisburg and San Antonio Railway Companies situated in the M. M. Battle Original Survey in Fort Bend County, Texas. (RECORDED IN VOLUME 39, PAGE 220, DATED SEPTEMBER 26, 1907, OFFICIAL RECORDS OF FORT BEND COUNTY, TEXAS.)

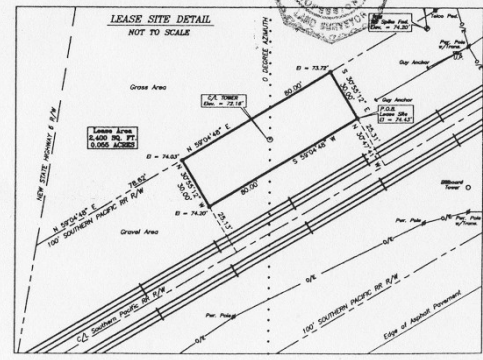
SITE SURVEY OF A PROPOSED LEASE SITE LYING IN A PART OF 1.585 ACRE TRACT IN THE SOUTHERN PACIFIC RAILROAD RIGHT-OF-WAY CITY OF SUGAR LAND, FORT BEND COUNTY, TEXAS

PROPOSED LEASE SITE DESCRIPTION
A tract of land lying in and being a part of a 1.585 acre tract out of a 14.75 acre strip of land situated in the M. M. Battle Original Survey as described in Volume 39, Page 220, Fort Bend County, Texas and being more particularly described as follows:
Commencing at the intersection of the centerline of State Highway 6 and the centerline for the double tracks of Southern Pacific Railroad Right-of-way; Thence S 59°12'18" W on said centerline for the double tracks, a distance of 170.55 feet; Thence N 30°47'41" W and perpendicular to said centerline for the double tracks, a distance of 25.31 feet to a 1/2" iron rod set for corner; Thence N 30°50'12" W a distance of 30.00 feet to a 1/2" iron rod set for corner; Thence N 59°04'48" E a distance of 78.62 feet from the intersection of the new West Right-of-way line of State Highway No. 6 and the North Right-of-way line of Southern Pacific Railroad Right-of-way line; Thence N 59°04'48" E on said North Right-of-way line a distance of 80.00 feet to a 1/2" iron rod set for corner; Thence S 30°50'12" E a distance of 30.00 feet to the Point of Beginning, containing 2,400.00 square feet or 0.055 acres of land, more or less.

ACCESS NOTE:
AAT Communications has access to State Highway No. 6 and U.S. Highway 90A which are adjacent to the subject property.

UTILITY NOTE:
AAT Communications has common usage of the existing utilities on the subject property.

Lucien C. Schaffer Jr. 2-10-03
Lucien C. Schaffer Jr., TX R.P.S. #19603



Drawings Based on T. S. P. C.
Established: 10/05/2002
Datum: NAD83 Texas S.C. Zone 4
Vert: Goid 98

SITE SURVEY OF:		DATE: 10/09/2002	SCALE: 1" = 1/4" N.T.S.
AAT / SUGAR LAND		FIELD: R.C.	SHEET 1 OF 1
STATE HWY. 6 & U.S. HWY. 90A, CITY OF SUGAR LAND, FORT BEND COUNTY, TEXAS		OFFICE: J.L.S.	
PREPARED FOR:			
AAT COMMUNICATIONS			



AAT Communications Corporation

3517 S.105 Ave.
Omaha, NE 68124
(402) 280-6546
(402) 657-4250
demeisel@aatcommunications.com

January 3, 2003

City of Sugar Land
Development Services
Attn: James Callaway, Director
10405 Corporate Drive
Sugar Land, Texas 77478

Re: Letter of Intent

Mr. Callaway,

The proposed communications facility located at the intersection of Alternate Highway 90 and Highway 6 has been designed for the collocation of multiple communication providers. It is AAT Communications intent to lease excess space both on the tower and in the compound, of the proposed facility, whenever a communications provider absorbs the use potential of the site and if structurally and technically possible.

Specifically, this tower is being designed for three (3) carriers that can service this area. AAT Communications will contact all communication providers that serve your community in an effort to collocate multiple providers at this facility, if the project is approved. AAT Communications Corporation is committed to the collocation of multiple providers on all of its owned and managed towers.

If you have any questions, I can be reached at (402) 280-6546.

Sincerely,

David Elliot-Meisel
Project Coordinator



BARAN telecom

February 21, 2003

City of Sugarland
Development Services
Attn: Mr. James Callaway, Director
10405 Corporate Drive
Sugarland, TX 77478

Re: Monopole Structural Design for Proposed AAT Communications Site at Hwy 90 and Hwy 6

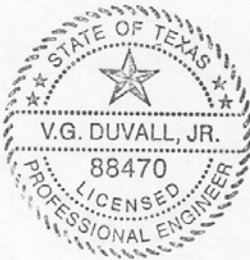
Dear Mr. Callaway,

The structural calculations provided for zoning were performed in accordance with the provisions of the ANSI-TIA/EIA-222-F Standard for a basic wind speed of 90 miles per hour as stipulated for Ft. Bend County. The report was done under the direct supervision of a registered Professional Engineer for the State of Texas. The final design of the pole and its accompanying foundation will be provided under this same criteria.

Thank you for the opportunity to provide you with the above quotation. If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

V.G. Duvall, Jr., PE
Director of Engineering
Baran Telecom





o2wireless Solutions

Monopole Analysis Program

Customer: AAT
Site Name: SUGARLAND
Job Number: 103-4174
Tower Model: 120' MONOPOLE

Wind Velocity (mph) 90.00
Radial Ice (in.) 0.00

1/16/03 5:06 PM

STRUCTURAL INFORMATION

Section #	Top Elevation (ft.)	Bottom Elevation (ft.)	Sides #	Top O.D. (in.)	Bottom O.D. (in.)	Thickness (in.)	Yield (kip./sq. in.)	Taper (in./ft.)	Length (ft.)
1	120	80	12	17.000	24.667	0.219	65.000	0.192	40
2	80	40	12	24.667	32.333	0.281	65.000	0.192	40
3	40	0	12	32.333	40.000	0.375	65.000	0.192	40

DISCRETE LOAD INFORMATION

Description	Elevation (ft.)	Weight (lbs.)	Wind Area (sq. ft.)	Ca	Kz	Qz (lbs./sq. ft.)	Fc (lbs.)
PROPOSED (12)- WIRELESS PANEL ANTENNAS	120	1000	65	1	1.45	29.99	3293.94
PROPOSED (12)- WIRELESS PANEL ANTENNAS	100	1000	65	1	1.37	28.46	3126.75
PROPOSED (12)- WIRELESS PANEL ANTENNAS	80	1000	65	1	1.29	26.71	2933.62

LINEAR LOAD INFORMATION

Description	Elevation (ft.)	Weight (lbs./ft.)	Wind Area (sq. ft./ft.)	Ca	CaAa (sq. ft./ft.)
PROPOSED (12) - 1 5/8" EXTERIOR RUN COAX	120	11.04	0	1.2	0.00
PROPOSED (12) - 1 5/8" EXTERIOR RUN COAX	100	11.04	0	1.2	0.00
PROPOSED (12) - 1 5/8" EXTERIOR RUN COAX	80	11.04	0	1.2	0.00

STRUCTURAL SUMMARY

Section #	Top Elevation (ft.)	Bottom Elevation (ft.)	Shear (Kips)	Axial (Kips)	Moment (Kips. Ft.)	Sway (deg.)	Deflection (in.)	fa+fb (kip./sq. in.)	Fb (kip./sq. in.)	Ratio (%)
1	120	119	3.37	1.05	3.33	5.33	74.89	0.87	52.00	1.67
1	119	118	3.45	1.10	6.74	5.33	73.77	1.63	52.00	3.14
1	118	117	3.53	1.16	10.23	5.33	72.65	2.38	52.00	4.58
1	117	116	3.61	1.21	13.80	5.33	71.54	3.12	52.00	5.99
1	116	115	3.69	1.26	17.44	5.32	70.43	3.84	52.00	7.38
1	115	114	3.77	1.32	21.17	5.31	69.32	4.54	52.00	8.73
1	114	113	3.85	1.37	24.97	5.30	68.21	5.23	52.00	10.06
1	113	112	3.93	1.42	28.86	5.29	67.10	5.91	52.00	11.36
1	112	111	4.01	1.48	32.83	5.27	65.99	6.57	52.00	12.63
1	111	110	4.09	1.54	36.88	5.26	64.89	7.22	52.00	13.89
1	110	109	4.18	1.59	41.01	5.24	63.79	7.86	52.00	15.11
1	109	108	4.26	1.65	45.23	5.22	62.70	8.49	52.00	16.32
1	108	107	4.34	1.70	49.53	5.21	61.61	9.10	52.00	17.51
1	107	106	4.43	1.76	53.92	5.19	60.52	9.71	52.00	18.67
1	106	105	4.52	1.82	58.39	5.16	59.44	10.30	52.00	19.82
1	105	104	4.60	1.88	62.95	5.14	58.36	10.89	52.00	20.94
1	104	103	4.69	1.94	67.60	5.12	57.29	11.46	52.00	22.05
1	103	102	4.78	2.00	72.33	5.09	56.22	12.03	52.00	23.14
1	102	101	4.87	2.06	77.15	5.07	55.16	12.59	52.00	24.21
1	101	100	4.95	2.12	82.06	5.04	54.10	13.14	52.00	25.26
1	100	99	8.17	3.19	90.19	5.01	53.05	14.23	52.00	27.37
1	99	98	8.26	3.26	98.40	4.98	52.01	15.23	52.00	29.29
1	98	97	8.35	3.33	106.71	4.95	50.97	16.21	52.00	31.17
1	97	96	8.44	3.41	115.10	4.92	49.94	17.16	52.00	33.00

1	96	95	8.53	3.48	123.59	4.88	48.91	18.09	52.00	34.78
1	95	94	8.62	3.55	132.17	4.84	47.90	18.99	52.00	36.52
1	94	93	8.72	3.63	140.84	4.81	46.89	19.88	52.00	38.22
1	93	92	8.81	3.70	149.60	4.77	45.88	20.74	52.00	39.88
1	92	91	8.90	3.78	158.46	4.72	44.89	21.58	52.00	41.51
1	91	90	9.00	3.85	167.41	4.68	43.91	22.41	52.00	43.09
1	90	89	9.09	3.93	176.46	4.64	42.93	23.21	52.00	44.64
1	89	88	9.19	4.01	185.60	4.59	41.97	24.00	52.00	46.16
1	88	87	9.28	4.08	194.83	4.55	41.01	24.77	52.00	47.64
1	87	86	9.38	4.16	204.17	4.50	40.07	25.53	52.00	49.09
1	86	85	9.48	4.24	213.59	4.45	39.13	26.27	52.00	50.51
1	85	84	9.57	4.32	223.12	4.40	38.20	26.99	52.00	51.90
1	84	83	9.67	4.40	232.74	4.35	37.29	27.69	52.00	53.26
1	83	82	9.77	4.48	242.46	4.30	36.38	28.39	52.00	54.59
1	82	81	9.87	4.56	252.28	4.24	35.49	29.07	52.00	55.90
1	81	80	9.97	4.64	262.19	4.19	34.61	29.73	52.00	57.18
2	80	79	13.00	5.75	275.14	4.14	33.74	24.16	52.00	57.18
2	79	78	13.10	5.85	288.19	4.09	32.88	24.91	52.00	46.46
2	78	77	13.20	5.96	301.34	4.05	32.02	25.64	52.00	47.90
2	77	76	13.30	6.07	314.59	4.00	31.18	26.35	52.00	49.30
2	76	75	13.40	6.18	327.93	3.96	30.35	27.05	52.00	50.68
2	75	74	13.50	6.30	341.38	3.91	29.53	27.73	52.00	52.02
2	74	73	13.60	6.41	354.93	3.86	28.71	28.40	52.00	53.33
2	73	72	13.70	6.52	368.59	3.81	27.91	29.05	52.00	54.61
2	72	71	13.81	6.63	382.34	3.76	27.12	29.69	52.00	55.86
2	71	70	13.91	6.75	396.20	3.71	26.34	30.31	52.00	57.09
2	70	69	14.01	6.86	410.18	3.66	25.57	30.92	52.00	58.29
2	69	68	14.11	6.98	424.22	3.61	24.81	31.52	52.00	59.46
2	68	67	14.22	7.09	438.38	3.55	24.06	32.10	52.00	60.61
2	67	66	14.32	7.21	452.65	3.50	23.32	32.68	52.00	61.74
2	66	65	14.42	7.32	467.02	3.44	22.59	33.24	52.00	62.84
2	65	64	14.53	7.44	481.50	3.39	21.88	33.78	52.00	63.91
2	64	63	14.63	7.56	496.08	3.34	21.17	34.32	52.00	64.97
2	63	62	14.74	7.68	510.77	3.28	20.48	34.85	52.00	66.00
2	62	61	14.84	7.80	525.56	3.22	19.80	35.36	52.00	67.02
2	61	60	14.95	7.92	540.45	3.17	19.13	35.87	52.00	68.01
2	60	59	15.05	8.04	555.45	3.11	18.47	36.37	52.00	68.98
2	59	58	15.16	8.16	570.56	3.05	17.83	36.85	52.00	69.94
2	58	57	15.26	8.28	585.77	2.99	17.20	37.33	52.00	70.87
2	57	56	15.37	8.40	601.09	2.94	16.58	37.80	52.00	71.79
2	56	55	15.48	8.52	616.51	2.88	15.97	38.26	52.00	72.69
2	55	54	15.58	8.65	632.04	2.82	15.37	38.71	52.00	73.57
2	54	53	15.69	8.77	647.68	2.76	14.79	39.15	52.00	74.43
2	53	52	15.80	8.89	663.42	2.70	14.22	39.58	52.00	75.28
2	52	51	15.90	9.02	679.27	2.64	13.66	40.00	52.00	76.11
2	51	50	16.01	9.14	695.23	2.58	13.11	40.42	52.00	76.93
2	50	49	16.12	9.27	711.29	2.52	12.58	40.83	52.00	77.73
2	49	48	16.22	9.40	727.46	2.46	12.06	41.23	52.00	78.52
2	48	47	16.33	9.52	743.73	2.40	11.55	41.63	52.00	79.30
2	47	46	16.44	9.65	760.12	2.33	11.05	42.02	52.00	80.05
2	46	45	16.54	9.78	776.61	2.27	10.57	42.40	52.00	80.80
2	45	44	16.65	9.91	793.20	2.21	10.10	42.77	52.00	81.53
2	44	43	16.76	10.04	809.90	2.15	9.65	43.14	52.00	82.25
2	43	42	16.86	10.17	826.71	2.09	9.20	43.50	52.00	82.96
2	42	41	16.97	10.30	843.63	2.03	8.77	43.85	52.00	83.65
2	41	40	17.08	10.43	860.65	1.96	8.35	44.20	52.00	84.34
3	40	39	17.18	10.59	877.78	1.90	7.95	44.55	52.00	85.01
3	39	38	17.29	10.76	895.02	1.85	7.56	44.90	52.00	85.69
3	38	37	17.39	10.93	912.36	1.81	7.17	45.25	52.00	86.37
3	37	36	17.50	11.09	929.80	1.76	6.80	45.60	52.00	87.04
3	36	35	17.61	11.26	947.36	1.71	6.44	45.95	52.00	87.71
3	35	34	17.71	11.43	965.02	1.66	6.08	46.30	52.00	88.38
3	34	33	17.82	11.60	982.78	1.62	5.74	46.65	52.00	89.04
3	33	32	17.92	11.77	1000.65	1.57	5.40	47.00	52.00	89.70
3	32	31	18.02	11.94	1018.62	1.52	5.08	47.35	52.00	90.36
3	31	30	18.13	12.11	1036.70	1.47	4.77	47.70	52.00	91.01
3	30	29	18.23	12.28	1054.88	1.43	4.46	48.05	52.00	91.66
3	29	28	18.34	12.46	1073.16	1.38	4.17	48.40	52.00	92.31
3	28	27	18.44	12.63	1091.55	1.33	3.89	48.75	52.00	92.96
3	27	26	18.54	12.81	1110.04	1.28	3.61	49.10	52.00	93.61
3	26	25	18.64	12.98	1128.63	1.23	3.35	49.45	52.00	94.26
3	25	24	18.74	13.16	1147.32	1.19	3.10	49.80	52.00	94.91
3	24	23	18.84	13.33	1166.11	1.14	2.85	50.15	52.00	95.56
3	23	22	18.94	13.51	1185.01	1.09	2.62	50.50	52.00	96.21
3	22	21	19.04	13.69	1204.00	1.04	2.40	50.85	52.00	96.86
3	21	20	19.14	13.87	1223.09	1.00	2.18	51.20	52.00	97.51
3	20	19	19.24	14.05	1242.28	0.95	1.98	51.55	52.00	98.16
3	19	18	19.33	14.23	1261.56	0.90	1.78	51.90	52.00	98.81
3	18	17	19.43	14.41	1280.94	0.85	1.60	52.25	52.00	99.46
3	17	16	19.52	14.60	1300.42	0.80	1.43	52.60	52.00	100.11
3	16	15	19.62	14.78	1319.99	0.76	1.26	52.95	52.00	100.76
3	15	14	19.71	14.96	1339.65	0.71	1.11	53.30	52.00	101.41
3	14	13	19.80	15.15	1359.40	0.68	0.97	53.65	52.00	102.06

3	13	12	19.89	15.33	1379.24	0.61	0.83	39.21	52.00	75.41
3	12	11	19.97	15.52	1399.17	0.57	0.71	39.37	52.00	75.72
3	11	10	20.06	15.71	1419.19	0.52	0.60	39.53	52.00	76.02
3	10	9	20.14	15.90	1439.29	0.47	0.49	39.69	52.00	76.32
3	9	8	20.22	16.09	1459.47	0.42	0.40	39.84	52.00	76.61
3	8	7	20.30	16.28	1479.73	0.38	0.31	39.99	52.00	76.90
3	7	6	20.38	16.47	1500.07	0.33	0.24	40.13	52.00	77.18
3	6	5	20.45	16.66	1520.49	0.28	0.18	40.27	52.00	77.45
3	5	4	20.52	16.85	1540.97	0.23	0.12	40.42	52.00	77.72
3	4	3	20.58	17.04	1561.52	0.19	0.08	40.55	52.00	77.99
3	3	2	20.64	17.24	1582.13	0.14	0.04	40.69	52.00	78.24
3	2	1	20.69	17.43	1602.80	0.09	0.02	40.82	52.00	78.50
3	1	0	20.73	17.63	1623.51	0.05	0.00	40.95	52.00	78.74

Memo

To: City of Sugar Land
From: Michael Baty, Real Estate/Zoning Manager
Date: 01.10.03
Re: T-Mobile Antenna collocation intent

T-Mobile of Houston requests your favorable consideration of a CUP for a new 120 foot monopole at the intersection of Highway 6 and Highway 90. The proposed new antenna location will allow T-Mobile to address CAPACITY issues our network is currently experiencing in the area. The continual increase in demand for our network is notably tied to the seeming endless residential and commercial construction in the general area that concentrates more T-Mobile consumers who live, shop, and commute in the area. TXDOT recognized the increase in vehicular traffic in this area and is addressing the situation with a substantial road-widening project for Highways 6 and 90. This antenna location anticipates and addresses call volume increases associated with the TXDOT widening of Highways 6 and 90.

Specifically, T-Mobile site F023 (refer to color slide labeled 'capacity diagram') has the maximum number of radios installed for all three of its sectors and site F141 almost has the maximum number of radios installed in its beta and gamma sectors. Having the maximum number of radios installed is the equivalent of trying to pour additional milk into a glass which is already full. T-Mobile is proactively seeking to address this concern in order to continue providing the consumers' expected level of service; emergency or otherwise.

T-Mobile has reviewed all structures within a ½ mile search radius of our proposed antenna collocation but no structures tall enough to collocate upon exist. Despite the commercial nature of the general vicinity, which includes an airport, a prison, railroad tracks and a Wal-Mart, T-Mobile's antenna array will be a slim-line flush mount application to mitigate aesthetic concerns noted by the public at previous hearings. This site, like all other T-Mobile antenna sites, will be built and operated within FCC standards.



I can be reached at pcs 469.360.0148 or michael.baty@t-mobile.com if further information is required.

Thanks.

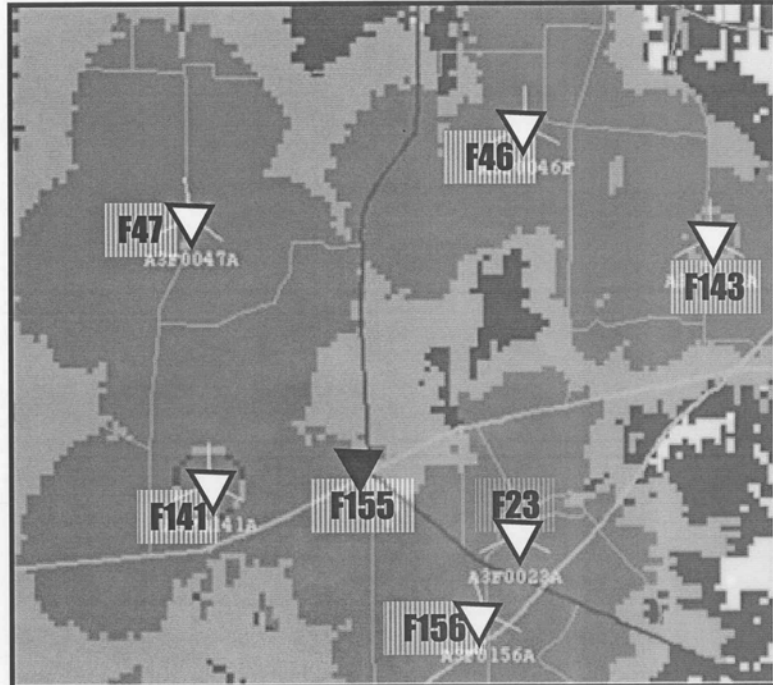
.. T .. Mobile ..

current RF footprint



-  existing site
-  proposed site

COMMERCIAL	> -65 dB
RESIDENTIAL	> -75 dB
VEHICLE	> -80 dB
LOW SIGNAL	> -92 dB

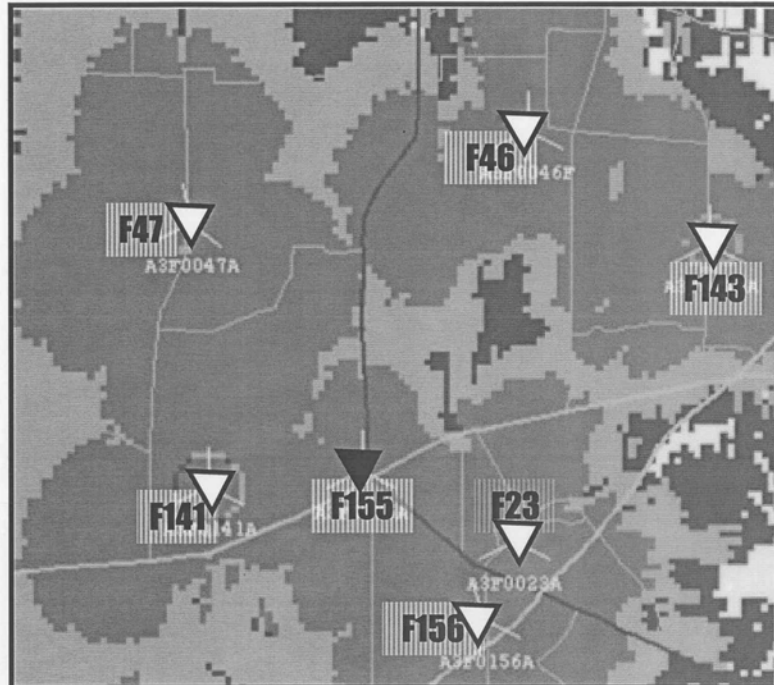
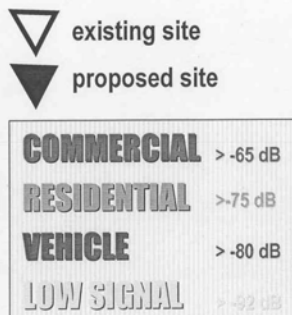


T-Mobile Proprietary Information for City of Sugar Land Use ONLY. DO NOT REDISTRIBUTE.

michael.baty@T-Mobile.com

..T..Mobile..

with new site



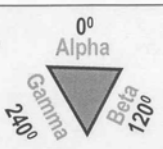
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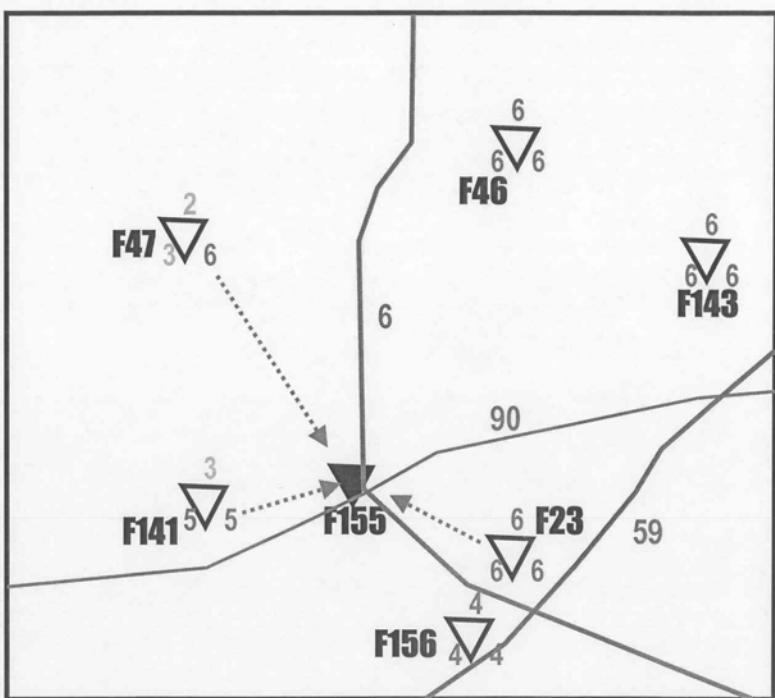
capacity diagram

T-Mobile Site No.
Antenna Height



Note: the diagram
indicates the current
radios installed per sector

- Each T-Mobile site has 3 sectors; Alpha, Beta, and Gamma
- Each sector can have a maximum of 6 radio's installed
- Without a new Cell Split site to relieve the CAPACITY issue, subscribers in the area will be denied entry onto the network until a channel is available
- F141's beta sector has five radios and F23's alpha and gamma sectors have the maximum radio's installed and are driving our request for a CAPACITY Cell Split site



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michael.baty@T-Mobile.com

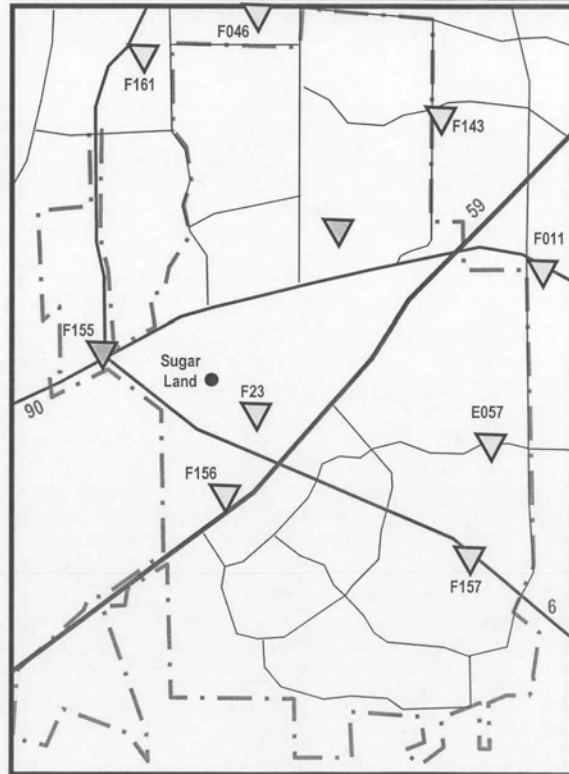
..T..Mobile..

Master Antenna Plan

	type	ant. ht.	jurisdiction	owner
F155	colo	100	sugar land	AAT
F161	colo	118	ft. bend co.	crown
F156	colo	100	sugar land	reliant
F023	rooftop	213	sugar land	fluor daniel
E057	colo	147	sugar land	reliant
F157	colo	100	sugar land	reliant
F046	colo	150	ft. bend co.	signature
F011	colo	131	stafford	nextel
F143	colo	120	stafford	cingular

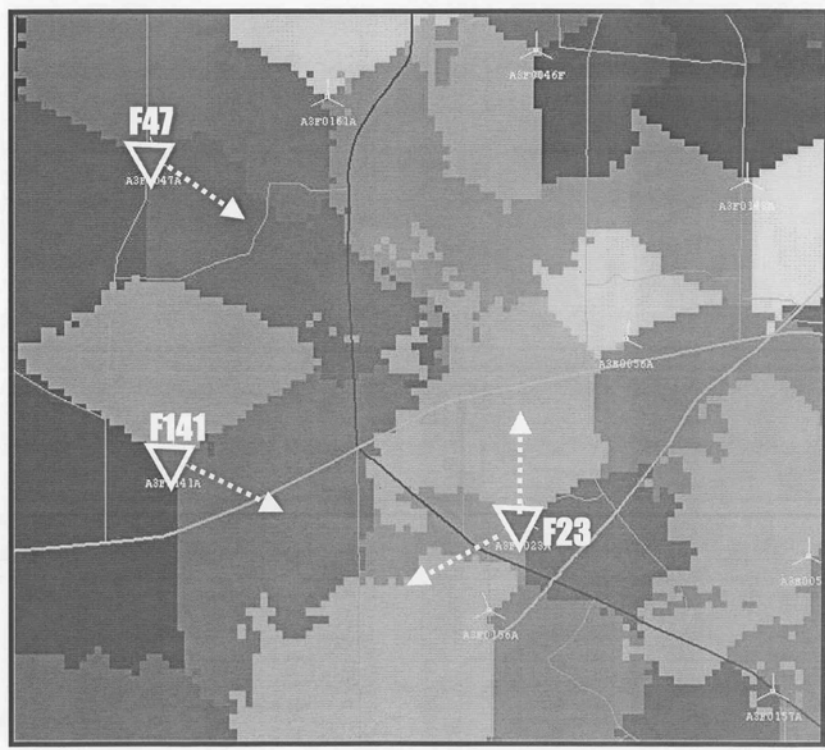
Note: All T-Mobile antenna arrays are collocations on existing reliant power poles, towers, or roof tops.

- ▽ existing T-mobile site
- ▽ proposed site
- ▽ search area



michael.daly@t-mobile.com

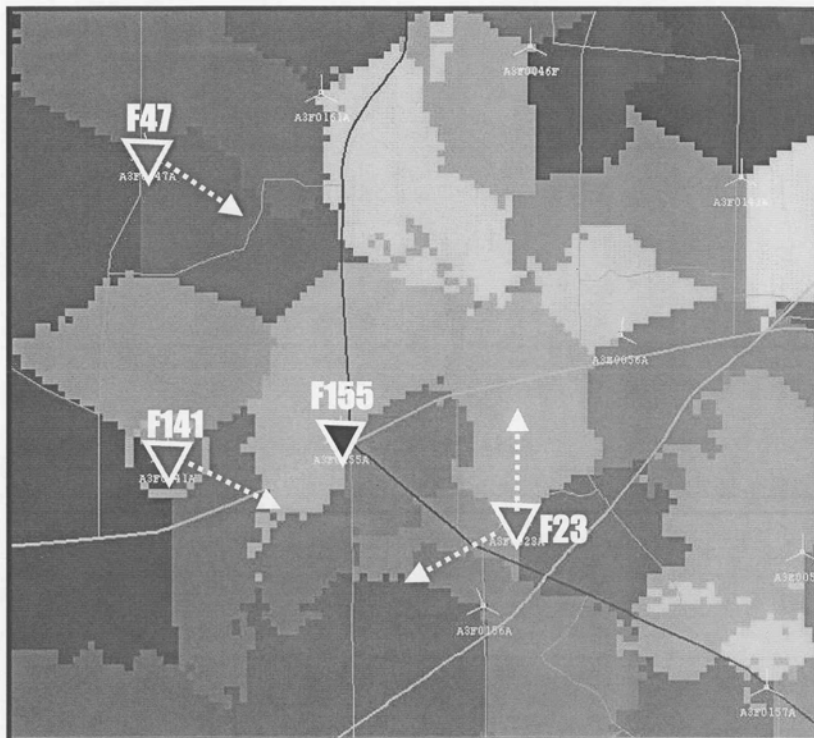
- As noted on the capacity diagram offload slide, T-Mobile has three sites that need relief: F47, F141 and F23.



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proposed 100 ft. tower

- The proposed location for F155 is ideally located at the northwest corner of Highway 90 and 6.
- F155 allows three capacity conditions from existing sites to be served with the use on new antenna location and not three new towers.

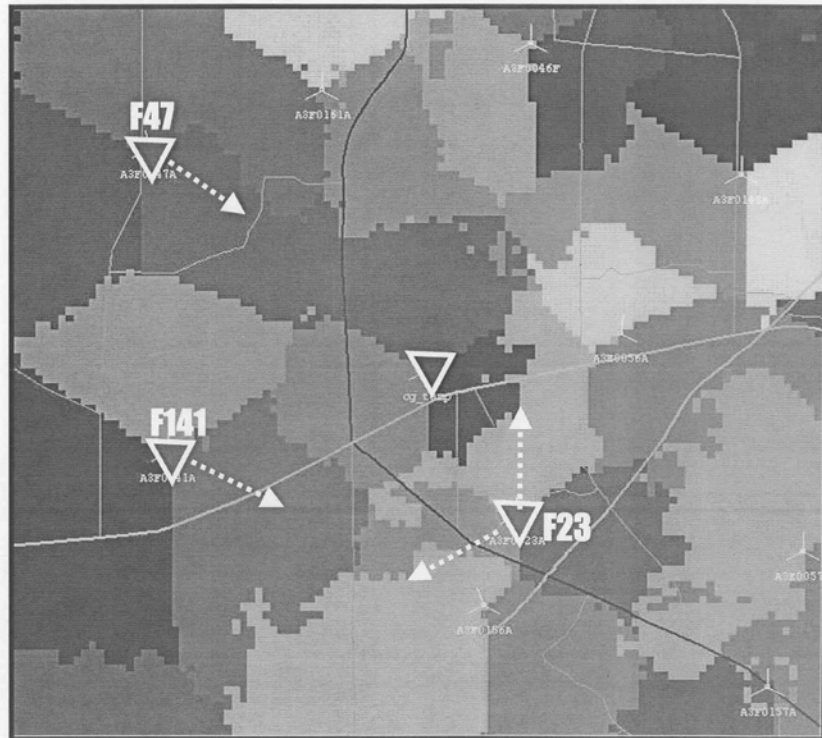


michael.baty@T-Mobile.com

..T..Mobile..

city suggested colo's

- The city suggested collocation here would not provide the necessary relief for F23.
- Additionally, the City suggested the collocation at the tower T-Mobile labels F141. T-Mobile is already on that tower.

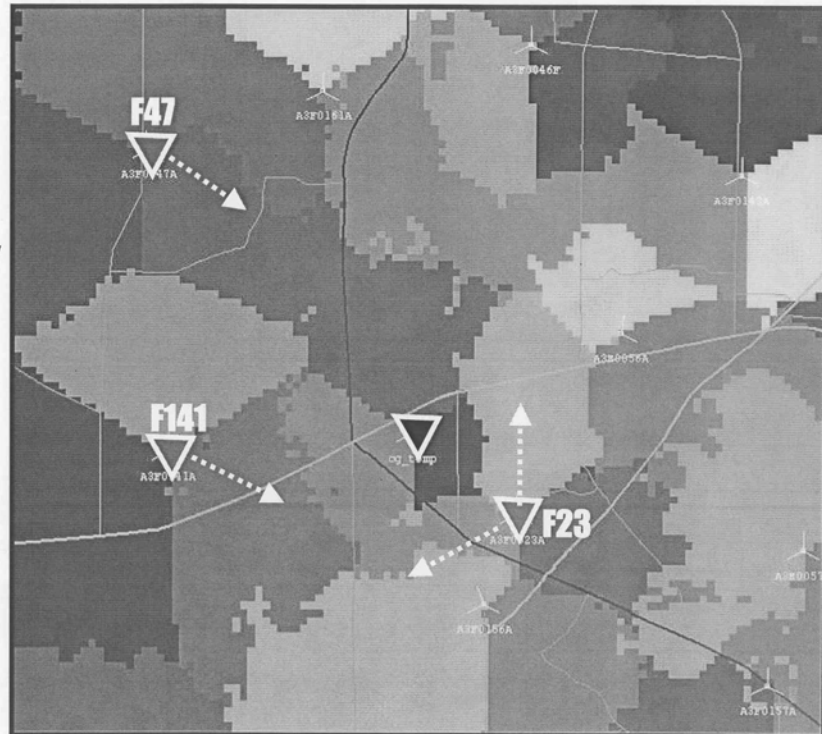


michael.baty@T-Mobile.com

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city suggested softball field

- The city suggested collocation at the softball would not provide the necessary relief for F47.
- Historically, the City doesn't support collocation in City Parks as evidenced by the failure to approve such a public/private partnership in 2002.



michael.baty@T-Mobile.com